

**STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

STAFF REPORT FOR REGULAR MEETING OF SEPTEMBER 24, 2015

Prepared on August 24, 2015

ITEM NUMBER: 11

SUBJECT: **Municipal Storm Water Program Direction and Proposed LID Fund Expenditure**

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KEY INFORMATION

Location: Region-wide
Type of Discharge: Municipal stormwater
Disposal Method: Surface water discharge at multiple locations
Existing Orders: Municipal Stormwater Permits

THIS ACTION: Informational

INTRODUCTION

The Central Coast Water Board's Municipal Stormwater Program is adjusting its direction after focusing efforts on development and implementation of LID through post-construction requirements in recent years. The current focus is shifting to watershed-based approaches to municipal stormwater program implementation and assessment, with a greater emphasis on quantifying pollutant loads in urban runoff. At the same time, as urban stormwater programs mature they will be attempting to address broader issues that recognize stormwater as a resource, not just a source of pollution, a nuisance, and a hazard. While LID and post-construction requirements remain important building blocks for this shift, Permittees need other tools to complete the transition to managing their programs on a watershed scale.

Central Coast Water Board staff has developed and implemented the first phase of a project to support the Permittees in obtaining these tools. This staff report describes the need for this project, its current status, and expenditures of Central Coast LID Fund resources to complete it. Central Coast Water Board staff envision future urban stormwater management as Permittees managing urban runoff on a catchment scale to protect and restore watershed processes, while also accruing the added benefits of climate resilience and water supply security. The program adjustments described in this staff report are to align with this vision.

BACKGROUND

Municipal stormwater permits are structured around a set of Minimum Control Measures (MCMs) that Permittees must implement over a period of years throughout their jurisdictions. The MCMs include both broad programmatic efforts such as Public Outreach and Education, and more specific measures like Construction Site Management and Post-Construction Requirements. This structure was the right approach at the outset for NPDES stormwater permitting in the late 1990s as the Water Boards began regulatory control of a pollution problem caused by both *non-point*

sources (e.g., over application of pesticides at municipal facilities and parks), and *point sources* (e.g., urban runoff from discrete outfalls into receiving waters). And while still valid, this approach presents inherent challenges for assessing the effectiveness of Permittees' efforts to implement the MCMs and control stormwater pollution. For example, the effectiveness of an action completed for the Public Outreach and Education MCM is nearly impossible to assess in terms of water quality outcomes. As a result, Permittees have struggled to understand and convey the effectiveness of many aspects of their programs, and Water Board staff has encountered difficulty in determining when Permittees have met the standard of all municipal stormwater permits, which is to reduce the discharge of pollutants from the municipal separate stormwater sewer system (MS4) to the Maximum Extent Possible. The capacity for adaptive management is undermined by the lack of certainty surrounding the effectiveness of a management action or multiple management actions taken together.

The importance of directing the limited resources municipalities have available for managing stormwater to those actions most effective in protecting water quality, combined with the uncertainty surrounding which actions are most effective, creates considerable tension in the regulatory context. The most recent generation of stormwater permits in California recognize this tension and provide various remedies aimed at improving the nexus between Permittees' actions and water quality outcomes. These remedies invoke watershed-based approaches to program implementation and assessment and place a greater emphasis on quantifying pollutant loads in urban runoff. Watershed approaches can emphasize alternatively: pollution prioritization; water quality controls; organization and collaboration between municipalities; and monitoring programs implemented on an appropriate geographic scale. At the same time, urban stormwater programs throughout the State are maturing and attempting to address broader issues that recognize stormwater as a resource, not just a source of pollution, a nuisance, and a hazard.

These shifts require Water Board staff itself to pivot regulatory oversight in a manner that promotes rather than hinders multiple-benefit outcomes for urban runoff management. The State Board has issued a precedential decision on the utility of watershed-based stormwater program implementation,¹ and State grant funding programs are developing guidelines all with a clear message: stormwater is a resource, and it is best managed through watershed approaches. While water quality remains the unambiguous goal, recognizing and using stormwater as a resource will change how we achieve that goal.

In the Central Coast, municipal stormwater Permits for both Phase I (Salinas) and Phase II municipalities (33 cities, five counties) integrate both watershed-based approaches and greater emphasis on quantifying pollutants. Over time, Permittees are required to shift to a quantifiable load-based approach to assessing program effectiveness on a watershed or urban catchment scale. This shift requires Permittees to re-tool their strategies for program assessment and implementation. Central Coast Water Board staff has assisted Permittees with development of urban catchment mapping protocols and design of a method for estimating urban catchment pollutant loads that integrates stormwater Best Management Practice (BMP) assessment and tracking.

¹ SWRCB Order WQ 2015-0075 Waste Discharge Requirements for MS4 Discharges within Coastal Watersheds of Los Angeles County, Except those Discharges Originating from the City of Long Beach MS4. June 16, 2015.

CURRENT WORK

Currently, Central Coast Water Board staff and Permittees are working with the Central Coast LID Initiative and its subcontractor to develop a method to estimate pollutant loads in a manner that provides a simple, visual way to identify and prioritize water quality improvements at the urban catchment scale. Phase 2 MS4 Permit requirements drive three key elements of this MS4 Support Project:

Permit Requirement	Why It's Important
1. Stormwater System (MS4) Mapping	Delineating urban catchments and mapping stormwater routing and outfalls is foundational to understanding the MS4 network and its impact on receiving waters.
2. Pollutant Loading/Reduction and Risk Assessment	The mapped MS4 provides the basis for hydrologic calculations and pollutant load estimates to identify which catchments represent high risk to receiving waters. This information helps identify stormwater program priorities and direct resources.
3. BMP Tracking, Performance and Maintenance	Structural and non-structural BMPs can be tracked by catchment to estimate performance and determine maintenance needs for structural BMPs. This information supports sustainable program actions and determination of whether progress toward water quality goals is being made.

Current work on the Central Coast MS4 Support Project builds from earlier work completed in the Lake Tahoe Water Board Region (R6) to provide a useable, transparent and scientifically-credible tool to estimate baseline pollutant loads; determine relative spatial risks to receiving water quality; and quantify the expected load reduction associated with water quality improvement actions. Rather than attempting to model multiple pollutant types, the methodology uses credible and effective proxies (Total Suspended Solids and Runoff Volume) to create a ranking of urban catchments in terms of relative risk to the receiving water (Figure 1). The result is an effective communication tool between municipal stormwater program staff and their elected officials (e.g., city councils), as well as between municipal staff and Central Coast Water Board staff.

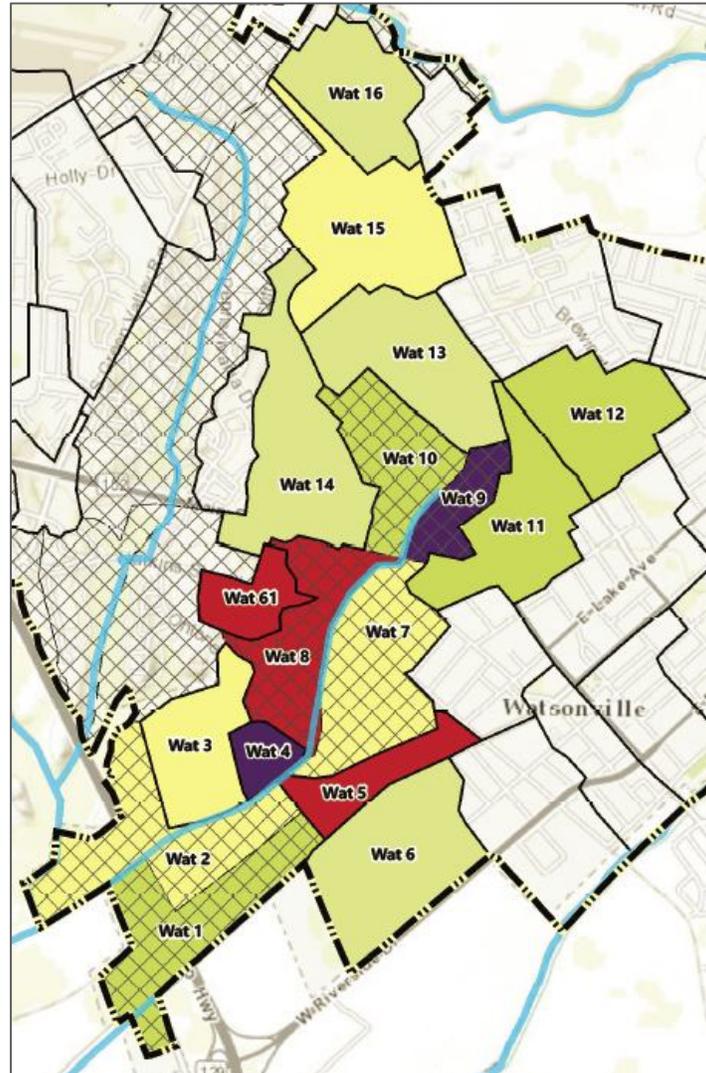


Figure 1. Urban catchments delineated under current work completed by Central Coast LID Initiative and a subcontractor. To provide clear spatial prioritization for program implementation, color coding indicates relative risk for urban runoff pollution. This example from Watsonville is for purposes of illustration only.

Phase 1 of the MS4 Support Project directly engaged several Permittees as Project Advisory Committee members, including: Monterey County, City of Monterey, City of Santa Cruz, Santa Cruz County, City of Watsonville, City of Paso Robles, San Luis Obispo County, City of Santa Maria, City of Buellton, and City of Santa Barbara. Beyond these Project Advisory Committee members, additional Permittees around the Central Coast Region have indicated their intent to use the products of the effort as they become available. Key tasks and deliverables of MS4 Support Project Phase 1 include:

Task/Deliverable	Status
MS4 Mapping Support. Recorded mapping webcasts (3) and support to MS4s	Complete
Tool for Estimating Load Reductions (TELRL) approach for inclusion in PEAIPLs ²	Complete
BMP Rapid Assessment Methodology (BMP RAM) approach for inclusion in PEAIPLs	Complete
Define TELRL and BMP model assumptions and primary functions. Identify and rank additional functionality elements.	Complete
Develop beta version TELRL and BMP RAM tools (i.e., create TELRL platform; begin modifications to the pre-existing BMP RAM platform)	Complete
TELRL and BMP RAM webinars (three): 1) project overview and summary, 2) technical assumptions and approach for TELRL and BMP RAM, 3) user guidance for beta testing of TELRL and BMP RAM.	Complete

CENTRAL COAST LID FUND EXPENDITURES

The Central Coast Water Board created the LID Fund in 2008, allocating \$2 million to an endowment and \$250,000 to an Operating Fund. Central Coast Water Board staff then established the Central Coast LID Initiative as the vehicle to use LID Fund resources to provide technical assistance to Central Coast LID stakeholders with a focus on supporting municipalities. After six years of operation, the LID Fund balance at the end of August 2015 was approximately \$1.4 million.

Staff from the Central Coast LID Initiative works with LID and stormwater management experts from throughout the West Coast to leverage knowledge and benefit the Central Coast Region. Since 2008, the Central Coast LID Initiative has helped acquire over \$4 million in funding for cities in the region to build LID projects. The Central Coast LID Initiative's 2013-2014 Annual Report, which can be viewed at http://www.centralcoastlidi.org/uploads/2013-2014%20Annual%20Report_final0.pdf, describes work completed last year consistent with the primary operating principle of Low Impact Development, namely: managing the landscape to mimic the natural hydrologic cycle to provide economic, social and environmental benefits including those for water quality and water supply.

Since its inception, Central Coast Water Board staff has approved allocations from the LID Fund totaling approximately \$2.2 million to contractors to support implementation of LID throughout the Central Coast. The principal contractor for the Central Coast LID Initiative is the UC Davis Extension, Land Use and Natural Resources Program, which employs Project Director Dr. Darla Inglis. Also included in this amount is \$219,999 Central Coast Water Board staff allocated from the LID Fund on November 25, 2014, for the Central Coast LID Initiative to contract 2NDNATURE, LLC of Santa Cruz to complete Phase 1 of the MS4 Support Project. At that time Central Coast Water Board staff refrained from funding the subsequent phase of the project pending indications of success in developing useful tools and expressions of commitment from stakeholders to use the tools.

Based on the results of Phase 1 of the MS4 Support Project, Central Coast Water Board staff is very satisfied with the contractor's work and the project team's success in engaging stakeholders. Central Coast Water Board staff is prepared to move forward with allocating LID Funds for Phase 2, which includes two major tasks: 1) refinement and finalization of the Tool for Estimating Load

² PEAIPL refers to the Program Effectiveness Assessment and Improvement Plan – a required submittal under the Phase II Permit

Reduction (TELR), and the BMP Rapid Assessment Method (RAM), and 2) development of user guidance and training. The cost of implementation of the tools in each municipality will be borne by the Permittees.

Scope and budget development for Phase 2 of the MS4 Support Project is currently being conducted by Central Coast LID Initiative and Central Coast Water Board staff. There are a range of scope and budget options for Phase 2 that reflect the amount of tool functions to be included in the final products. To ensure ease of use and value for the tools being developed, the final scope will be based on the Project Advisory Committee's input on a range of functionality elements for TELR and BMP RAM.

CONCLUSION

In practical terms, the tools developed by the MS4 Support Project promise to bring more accurate effectiveness assessment, greater accountability, understanding, and certainty to the Permittees' overall efforts to improve urban runoff quality. The results of applying the tools will assist Central Coast Water Board staff with prioritizing regulatory oversight of Permittees and inform future revisions to Permits (Salinas in 2017; Phase II Permit in 2018). But beyond these practical outcomes, Central Coast Water Board staff also believes the tools will be transformative in helping the Region's municipalities embrace and achieve the contemporary concept of urban stormwater management – one based on watershed-scale solutions and using stormwater as a resource. Furthermore, it will point the Central Coast Stormwater Program in the direction of staff's current vision for urban stormwater management, a future where Permittees are managing urban runoff on a catchment scale to protect and restore watershed processes, while also accruing the added benefits of climate resilience and water supply security.